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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/995,866 | 11/26/2001 | Akira Mase | 0756-2401 | 3786 |
| 31780 | 7590 | 11/03/2004 | EXAMINER | |
| ERIC ROBINSON PMB 955 21010 SOUTHBANK ST. POTOMAC FALLS, VA 20165 | | | NGUYEN, HOAN C | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2871 | |

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding..

Office Action Summary

Application No.

09/995,866

Applicant(s)

MASE, AKIRA

Examiner

HOAN C. NGUYEN

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-12 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 2-12 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 13 Aug. 2004 has been entered.

Response to Amendment

In Advisory action mailed on 1 July 2004, examiner notified that the applicant failed to submit an affidavit for the structure of a lead comprising a second layer (ITO) formed on the first layer (silver) to show unexpected results. In the RCE filed on 8/13/04, applicant again failed to provide any kind of affidavit. **Therefore, this office action is the same ground rejection with the previous final action.**

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuster-Wolden et al. (US4385976) in view of Hart (US4462883).

Schuster-Wolden et al. teach a display device comprising

- a substrate 3, which is conventionally made of glass for reducing cost.
- a lead formed over the glass substrate, said lead comprising a first layer of copper 18 and a second layer of ITO 17 formed on the first layer.

For printing pattern and low cost, first layer can be conventionally made by conducting paste made of silver or gold, which is baked for drying and bonding to the substrate (this is old technology of PCB manufacture);

- an IC chip 16 provided over the glass substrate wherein a pad of the IC chip is electrically connected to the second layer of the lead (col. 3 lines 65-68).

Schuster-Wolden et al. fail to disclose a lead comprising a first layer comprising silver and a second layer comprising indium tin oxide formed on the first layer.

Hart discloses (col. 4 lines 9-27) the transparent electrically conductive film comprising a laminate of silver having an electronic conductive function and ITO layer for anti-reflecting with forming oxide over silver layer (col. 4 lines 9-10), protecting from mechanical damage (col. 4 lines 18-19) and improving the adhesion of silver layer to the glass (col. 4 lines 34-37).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify display as Schuster-Wolden et al. disclosed with a lead comprising a first layer comprising silver and a second layer comprising indium tin oxide formed on the first layer as taught by Hart for anti-reflecting with forming oxide over silver layer (col. 4 lines 9-10), protecting from mechanical damage (col. 4 lines 18-19) and improving the adhesion of silver layer to the glass (col. 4 lines 34-37).

2. Claims 4-9 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuster-Wolden et al. (US4385976) in view of Hart (US4462883) as applied to claim 2 above, and further in view of Takeda (US4680226).

Schuster-Wolden et al. fails to disclose the adhesive comprising epoxy resin and metal particles that can be Ni for providing high electrical conductivity.

Takeda teaches (col. 2 lines 53-64) the adhesive comprising epoxy resin and metal particles that can be Ni for providing high electrical conductivity.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify display as Schuster-Wolden et al. disclosed with the adhesive comprising epoxy resin and metal particles that can be Ni for providing high electrical conductivity as taught by Takeda (col. 2 lines 53-64).

Response to Arguments

Applicant's arguments filed on Aug. 13, 2004 have been fully considered but they are not persuasive.

Applicant's ONLY arguments are follows:

- A. Hart is not in the field (display device) of Applicant's endeavor. The Examiner asserts that the "display device" is considered as a preamble. Specifically, the Final Official Action appears to ignore the recitation of a display device in the preamble. MPEP 2111.02 discusses the weight of the preamble.
- B. The prior art lacks any teaching or suggestion that teaches the desirability of the use of a window glass anti-reflecting coating in combination with a connection between a lead and an IC chip of a display device. The Applicant respectfully submits that a low emissivity coating for window glass (Hart) is not reasonably pertinent to Schuster-Wolden or the present invention.

Examiner's responses to Applicants' ONLY arguments are follows:

- A. The body of claims 2, 4, 7 and 10 describes the field of electrical connection between chip and substrate (not field of the display). The feature "display device" in the head of the claims considers as Preamble which does not give a patentable weight because of following:

¶ 7.37.10 *Unpersuasive Argument: Limitation(s) in Preamble*

In response to applicant's arguments, the recitation [1] has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

The body of claim provides a structure of electrical connection between an IC-chip and leads on substrate. **This structure is able to stand alone** and can be used in different applications including electronic/electrical device (such as radio, TV, radar, computer, PCB etc...) or display device. Therefore, "display device" in the head of the claims considers as preamble, which only recites **the intended use of this structure** and cannot give a patentable weight.

B. Applicant cites from col. 2 lines 5-6 only one application of low emissivity coatings on transparent substrate for "the use of a window glass anti-reflecting coating" in the Description of the Prior Art of Hart's reference.

However, Hart also discloses different application as following:

- "conductive glass article comprising a glass substrate and an electro-conductive coating (electro-conductive application)...to provide an electrical resistivity of not more than 3 ohms/square..." (col. 1 lines 15-20);
- "Sufficient silver is deposited to provide a layer from 5 to 30nm thick....The thickness greater than 20nm are generally only required for **electro-conductive**

application, and for low emissivity coatings, we generally use a silver less than 20nm thick" (col. 4 lines 1-8).

In general, **the electro-conductive application** applied for electrical conducting with electrical connection or electrical contact. The ITO layer is formed on silver layer for (a) anti-reflecting (when IC-chip sensitive to light); (b) protecting mechanical damage (col. 4 line 18-19) and (c) improving the adhesion of silver layer to the glass (col. 4 lines 9-37). Therefore, Hart and Schuster-Wolden are analogous prior art for electrical connection or contact.

Furthermore, the specification does not disclose the unexpected result or motivation (why it is important) of a lead comprising a second indium-tin-oxide layer formed on the first silver layer. If the instant application carries out under a different motivation stated above, applicant refers to provide the unexpected result in an affidavit.

Conclusion

This is a RCE of applicant's earlier Application No. 09/995,866. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (571) 272-2296. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim H Robert can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

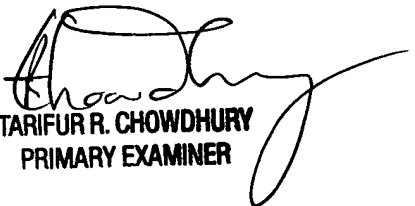
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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HOAN C. NGUYEN
Examiner
Art Unit 2871

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PRIMARY EXAMINER